

NFC | RING

PRODUCT DATASHEET

Product Model: Alpha Signature

Product Code: NTAG203-V1-ALPHA-T-B-T

Updated: 10/01/2016

Approved by: John McLear

PHYSICAL CHARACTERISTICS

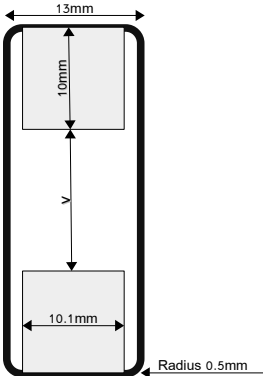
Ring Dimensions

V = Varies on Ring Size

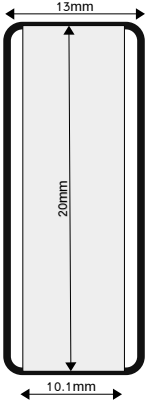
Black = Ring Blank

Gray = Inlay / Antenna

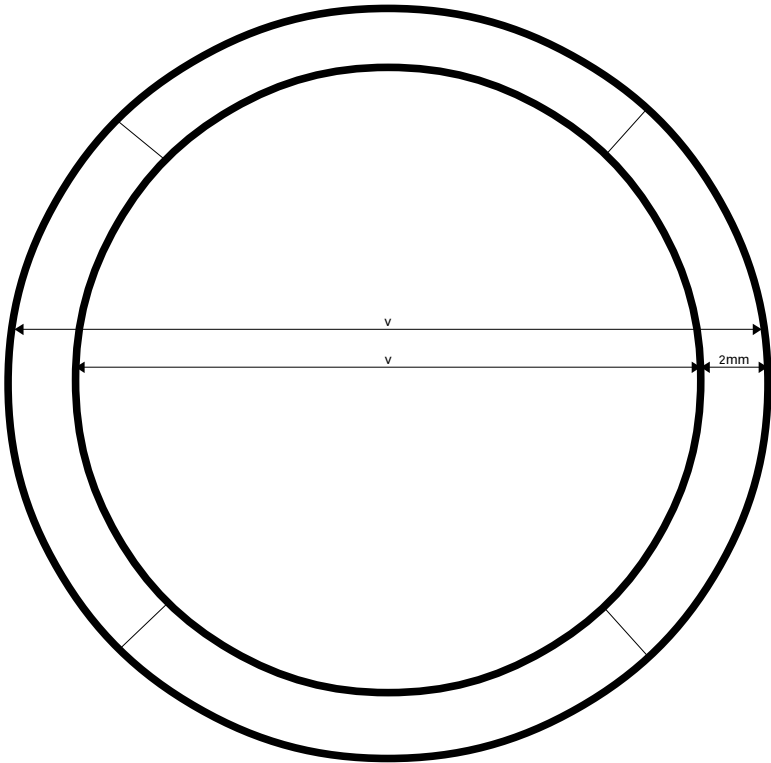
Sides



Top



Front



Available Sizes (United States Sizes)

4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16

Fit style

Comfort Fit: Soft Radius

Materials

Ring Blank: Hypoallergenic Titanium

Inlay cover: Hypoallergenic Epoxy

Colors

Blank: Silver Titanium

Top Inlay: Black

Bottom Inlay: Transparent

Inlay FPCB: Gold Yellow

Engraving

None

Antenna

2 of 20mm x 10mm Curved on FPCB (Flexible Printed Circuit Board)

Tin plated copper

NFC Ring Logo etched on FPCB

IC CHARACTERISTICS

Number of Ics(Integrated Components): 2

IC Manufacturer: NXP Semiconductors

IC Model: NTAG203

Full specifications: http://www.nxp.com/documents/short_data_sheet/NTAG203_SDS.pdf

Operating Frequency: 13.56Mhz

ISO/IEC: 14443A

User writable space: 144 bytes

Data retention: 5 years

Write endurance: 10,000

IC Type: Sawn Wafer

IC Mount Type: Wire bonded w/ glue

Security

Anti-cloning support by unique 7-byte serial number for each device.

32-bit user programmable OTP(One Time Programmable) area.

Field programmable read-only locking function per page for first 512 bits.

Read-only locking per block for rest of memory.

OPERATING LIMITATIONS

Forces

Can withstand drops onto all surfaces from 5M

Temperatures

Overall recommended temperature maximum exposures:

Min: -20c

Max: 110c

IC Limitation:

Min: -55c

Max: 70c (note that the IC is protected by Epoxy and a heat resistant glue)

Epoxy Limitation:

Min: -20c

Max: 110c

Blank Limitation:

Min: -85c

Max: 1668c

Water resistance

IP66

Protected from Total dust ingress

Protected from high pressure washer jets from any direction

PATENTS AND LEGAL

Patents:

US 2015/0042450-A1: Covers:

Inserting NFC inlays in a Ring Embodiment (Both metallic and ceramic)

Using Hand Gestures to perform different tasks with a Ring including unlocking a phone and sharing contact information

Interacting between a Ring and an access control system

Current Licensees:

Visa Collab Inc

Mastercard Inc

DangerousThings Inc

Trademarks:

“NFC Ring” is a registered Trademark of McLear Ltd

BEHAVIORAL CHARACTERISTICS

Operating Range

Keyduino Nano: 4mm

Elechouse PN532: 3mm

Samsung SHS-1321: 2mm

Nexus 5: 2mm

ACR122: 1mm

HTC One M8: 1mm